

REMARKS

Reconsideration of the subject application based on the following remarks is respectfully requested.

Claims 31 and 35 have been amended. Support for the amendment to claims 31 and 35 may be found in the detailed description, claims, and drawings, as originally filed. Thus, the amendment to claims 31 and 35 does not add new matter.

Claims 20 and 23-37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Colavin (US Patent No. 5,666,115) in view of Riffe et al (US Patent No. 4,502,111) in further view of Coon et al (US Patent No. 5,619,666). Applicants traverse.

Claim 20 includes the following limitations:

“inputting an instruction stream into a second shifter, the instruction stream being obtained exclusively from a first shifter;
determining in a length decoder and in a first clock cycle, a length of a current instruction in the instruction stream;
if a successive instruction in the instruction stream is contained in the second shifter then shifting the instruction stream to a start of the successive instruction based exclusively on the length of the current instruction, said shifting being performed during the first clock cycle and within the second shifter; and
if the successive instruction is not contained in the second shifter then shifting the successive instruction into the second shifter from the first shifter in the same clock cycle and shifting the instruction stream to the start of the successive instruction one clock cycle later.”

(Emphasis added)

Colavin discloses a variable-length digital code decoder that comprises a first barrel shift register (11) which reads input data and performs a shift in the data read equal to the cumulative total of the lengths of the codes decoded between the preceding cycle and the start of the last read, and a second barrel shift register (13) which receives the data arriving from the first register and performs a shift equal to the length of the code decoded on the preceding cycle. (See abstract). According to Colavin, the second barrel shifter (13) is able to shift at most the size of the longest code likely to present itself (see col. 6, lines 35-40). Thus, if the decoder of Colavin

were modified to decode instructions, then the second barrel shift register (13) would have a capacity sufficient to shift the longest instruction likely to present itself. Because the second barrel shift register (13) would be able to shift the longest instruction likely to present itself, it will be seen that the above emphasized limitations of claim 20 would be rendered unnecessary since the capacity of the second barrel shift register (13) is such that it would always be able to shift to the start of the successive instruction. Thus, the advantage of the present invention, which is that for some instructions length decoding and alignment of the instructions to the start of the successive instruction occur in the same clock cycle (i.e., the first clock cycle as per claim 20) is lost. Based on the foregoing, it will be seen that Colavin cannot be modified or combined with Riffe, or Coon, to produce the invention claimed in claim 20. Moreover, the combination of Colavin, Riffe, and Coon fails to teach or suggest all limitations of claim 20.

Accordingly, it is respectfully submitted that claim 20 is not anticipated or rendered obvious by the combination of Colavin, Riffe, and Coon.

Given that claims 23-25 depend on claim 20, it is respectfully submitted that these claims are also not anticipated or rendered obvious by the combination of Colavin, Riffe, and Coon.

Independent claim 26 includes limitations similar in scope to the above-discussed limitations of claim 20, and accordingly it is respectfully submitted that claim 26 is not anticipated or rendered obvious by the combination of Colavin, Riffe, and Coon.

Given that claims 27-30 depend on claim 26, it is respectfully submitted that these claims are also not anticipated or rendered obvious by the combination of Colavin, Riffe, and Coon.

Independent claim 31 includes the limitation that the second shifter has a capacity to shift which is less than the maximum instruction length. As noted above, in Colavin, the second barrel shift register (13) has a capacity to perform a shift equal to the size of the longest code/instruction likely to present itself. Thus, the combination of Colavin, Riffe, and Coon does not teach or suggest all limitations of claim 31, and accordingly, claim 31 is not anticipated or rendered obvious by the combination of Colavin, Riffe, and Coon.

Given that claims 32-34 depend on claim 31, it is respectfully submitted that these claims are also not anticipated or rendered obvious by the combination of Colavin, Riffe, and Coon.

Independent claim 35 includes a limitation similar in scope to the above-discussed limitation of claim 31, and accordingly it is respectfully submitted that the combination of Colavin, Riffe, and Coon does not anticipate or render claim 35 obvious.

Given that claims 36 and 37 depend on claim 35, it is respectfully submitted that these claims are also not anticipated or rendered obvious by the combination of Colavin, Riffe, and Coon.

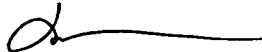
It is respectfully submitted that in view of the amendments and remarks set forth herein, all rejections have been overcome. All pending claims are now in condition for allowance, which is earnestly solicited.

Authorization is hereby given to charge our Deposit Account 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such an extension.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

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Michael J. Mallie
Reg. No. 36,591

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025-1030
(408) 720-8300